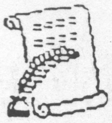
S.L.U.G. NEWSLETTER Sam



SINCLAIR LOUISVILLE USERS GROUP
LOUISVILLE, KENTUCKY

EDITOR: JIM DODRILL

FEBRUARY 1986

The first meeting of '86 was on Sunday Jan. 19. we had a sight and sound show for all present. Jim demoed a speech program for the 2068 that was in ZX COMPUTING. A welcoming message was made before the meeting had started, and then the meeting was called to order by the computer with an audible greeting.

Jim also demoed a program by John, who is back in school. It is a helpful utility, utilizing the speech program. When debuging a MC program, this little gem will read the contents of memory to you while you read the original listing. The program alows you (or rather the computer) to read any block of memory, and Jim had it reading the TIMEX ROM.

Bob demoed his RGB monitor that he evaluated in "BOB's BITS" in the last news letter. The monitor was interfaced using his ARECO interface. Jim had some games tapes, and they were loaded into the computer. The difference between a TV and composite monitor is something to see, but with a RGB monitor it is unbelievable. The display was bright and steady and all colors were sharp.

In this issue we have the listing for the speech program, called "SPEAKWELL". Also a game for your 2068, "BATTLESHIPS". Peter Grimley has more software reviews, and Bob has more of "BOB's BITS". The answers to NOT AN IQ TEST are inside, along with alot more.

Next Meeting MARCH 16

PRESIDENT: JIM DODRILL

SECRETARY: JEFF BURTON

TREASURER: PAUL KINNEY

SPECTRUM SOFTWARE

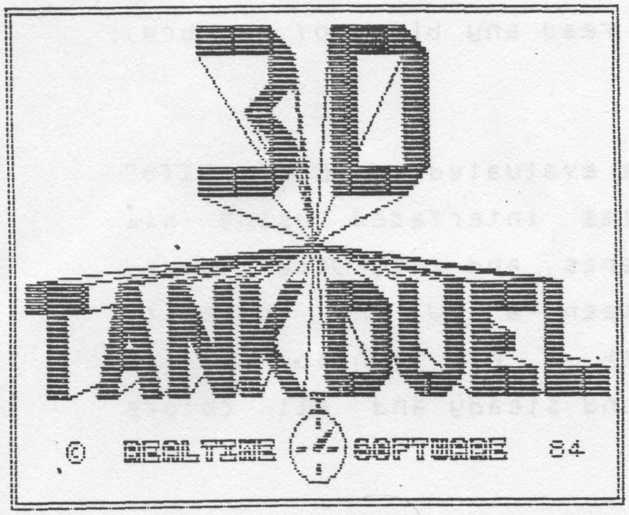
SOFTAID

By
Peter E. Grimley

In this second part of my review on SOFTAID, I will go over the last 5 games on the SOFTAID tape : Gilligan's Gold, Ant Attack, 3D Tank Duel, Jack & the Beanstalk, and Sorcery.

GILLIGAN'S GOLD

This game from Ocean is a fine example of a "ladders and platforms" game. As Gilligan, you must run across 3 different screens, collecting bags of gold and depositing them in your miners cart. You are not alone in the goldmine, because two bandits are busily chasing after you. The bags of gold may be dropped on the bandits to knock them unconscious for awhile. Pick axes can also be used to slow them down. There are quick-moving mine carts which you can hop into to get away from your pursuers, as well as elevators. Smooth graphics and a relentless pace make this game great fun to play.



ANT ATTACK

From Quicksilva, this is a classic game and rightfully so. With amazing three dimensional graphics, I found it hard to stop playing. The basic idea of the game is to rescue your friend (boy or girl) who is captive inside a large city full of giant ants. At the beginning of the game, you choose if you're a "boy" or a "girl" and then start to play. Armed with 20 grenades, you can destroy or paralyze the vicious giant ants. Features which help you in your mission are views from 4 different angles, and a scan which points you in the right direction. When I saw the 3D graphics, and found that I could climb up buildings and over walls, I was amazed. An expertly written program, this game will continue to entertain for a long time.

3D TANK DUEL

Based on an old arcade favorite, 3D TANK DUEL from Real-Time is not too original, but is very entertaining. Drawn in splendid 3D line graphics, you travel across a hostile landscape in your tank. There are basically 3 different enemies which can be destroyed : enemy tanks, flying saucers, and heat-seeking missiles. As you move closer to objects, they smoothly and realistically grow in size. I can not say too much for the complexity of this game, but the graphics are stunning and the feeling of movement is very real.

JACK AND THE BEANSTALK

The best I can say for this game from Thor is that it is extremely difficult. After trying my best at several sittings, I have not yet even been able to get past the first screen. Controlling Jack, you must get up to the giant's castle and collect his treasures without waking him up. On the first screen, Jack must climb up the giant vine. This game requires pixel precision, and the exact right course must be taken every time or you'll quickly lose a life. This game was quite successful over in England, although I find that I cannot quite enjoy it when I die in the first 10 seconds of playing the game.

SORCERY

From Virgin, this game seemed very promising. Unfortunately, I have had no success in getting it to work. It loads in fine, but when the game starts, your sorceror is stubbornly stuck at the bottom of the screen and is quickly killed by a nasty monster. I'm sure others have experienced this problem, but if someone has found a way to fix it, please write me C/O S.L.U.G. Newsletter. This game is too good to pass up!

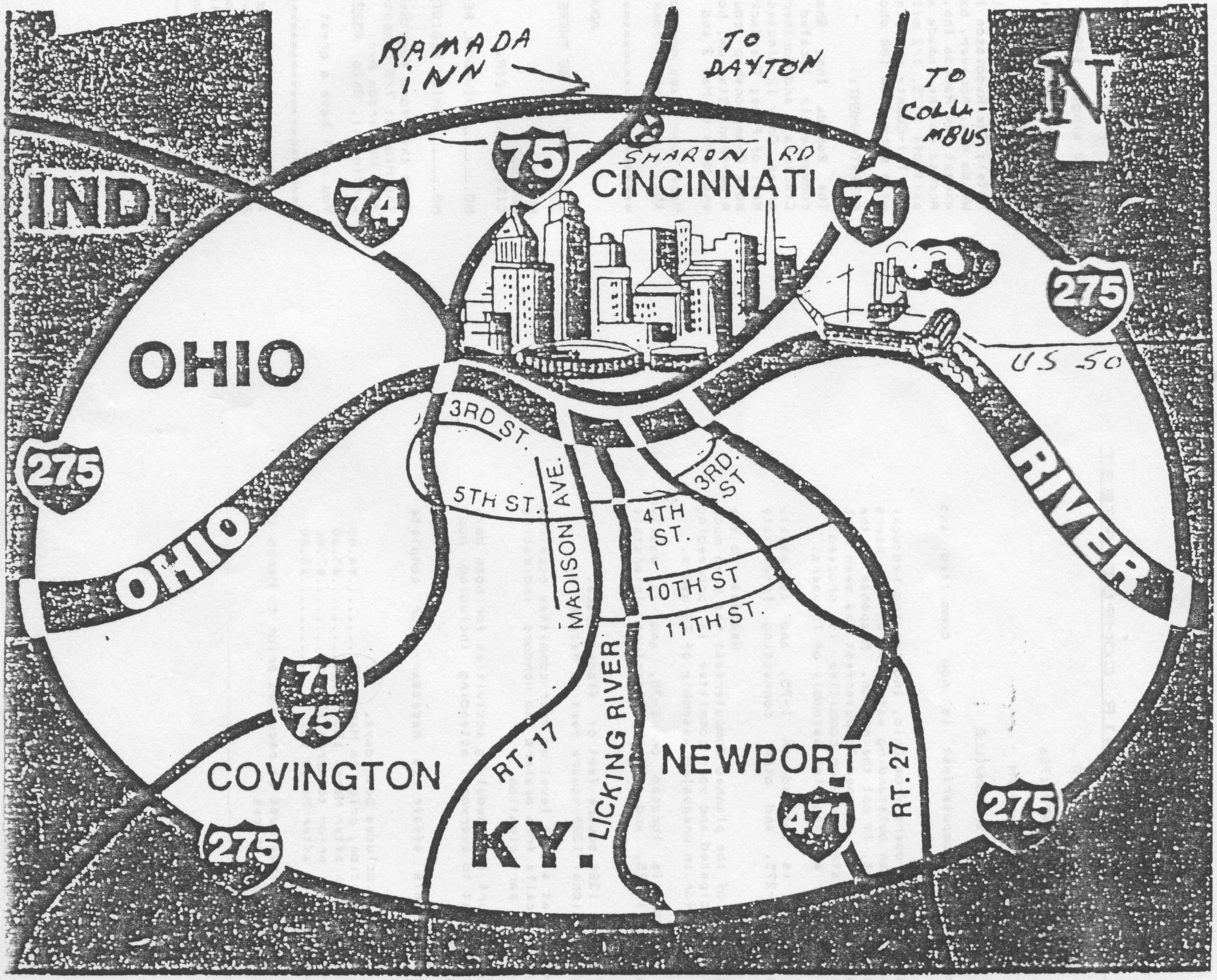
Again, I highly recommend SOFTAID to unserious game players as well as serious users. Without a doubt, this tape is a worthy addition to anybody's software library.

MACHINE: T/S 2068 w/Spectrum ROM
NAME: Softaid
FROM: VARIOUS
PRICE: $8.25
GRIMLEY FACTOR: 10

MAY 3RD AND 4TH 1986

MIDWEST TIMEX/SINCLAIR

COMPUTERFEST


RAMADA INN
TO DAYTON
TO COLL-MBUS
N
75
SHARON RD
CINCINNATI
IND
74
71
275
US 50
OHIO
3RD ST.
5TH ST.
AVE.
MADISON
3RD. ST
4TH ST.
10TH ST
11TH ST.
275
OHIO
RIVER
71
75
COVINGTON
RT. 17
LICKING RIVER
NEWPORT
RT. 27
471
275
KY.
275

MIDWEST TIMEX/SINCLAIR COMPUTERFEST

CINCINNATI, OHIO

MAY 3RD AND 4TH 1986

9:00 AM to 5:00 PM

RAMADA INN, SHARONVILLE

The Midwest Timex/Sinclair Computerfest is now committed and WILL be a reality.

Organized and sponsored by users from Ohio, Indiana and Kentucky this event promises to be an outstanding assembly of TS users from throughout the Midwest, if not the nation. Response to the initial mailing notice of the planned Computerfest has been much much greater than anticipated and your committee is proceeding with great excitement for an unequaled assembly of TS users.

The Ramada Inn location is located on I-75, and is easily accessable from I-71, I-275, and other connecting Interstate highways.

Response to the initial mailing notice of the planned Computerfest has been much much greater than anticipated and your committee is proceeding with great excitement for an unequaled assembly of TS users.

The Ramada Inn location is located on I-75, and is easily accessable from I-71, I-275, and other connecting Interstate highways.

We have contracted for 1280 square feet of floor space, with an option for an additional 1200 square feet if necessary.

Excitement is running at a high level as your committee receives letters and telephone calls from dealers and vendors indicating their full support and participation.

Program Chairman Tom Burt is scheduling activities for both days that will be of interest to everyone attending including door prizes and drawings.

Your participation in this affair is necessary for complete success.

Guest Attendance rates, includes both days.

Individual Registration, prior to March 15	$4.00
Registration after March 15	$5.00
Family Registration, prior to March 15	$7.00
Registration after March 15	$8.00

All advance registration fees must be received prior to March 15 to qualify for the discount prices

LODGING:

We have made arraingements for Commercial room rates at the RAMADA INN.

$40.00 single, $48.00 double.

Mention The Midwest Timex Sinclair Computerfest when making your reservations.

Other area Motels include the Holiday Inn, North; The Marriott Hotel; The Raddisson Inn, Cincinnati; and The Sharon Exit Motel. We do not, however, have commercial arraingements with any motel except the Ramada Inn.
Access to the Ramada and other motels is from the Sharon Rd. exit off I-75, 1/2 mile south of I-275.
The Tri-County shopping mall is located in the Computerfest area with more than 100 shops to serve your every need or desire.

ENTERTAINMENT:

The Ramada Inn, Sharonville, and other area motels, is conveniently located on I-75 just minutes from downtown Cincinnati and Northern Kentucky night club and entertainment areas. Only 12 minutes to fabulous KINGS ISLAND; The Football Hall of Fame; The Jack Nicklaus Sports Center, featuring an 18 hole Championship course, and other sports activities. The Riverfront Stadium, home of the Cincinnati Reds, hosts the Reds and Mets on May 3 and 4 for afternoon games starting at 2:15.

Make your plans now to visit the Queen City, and help to make this a memorable Timex Sinclair gathering.

=*=

ADVANCE REGISTRATION

I'LL (WE'LL) BE THERE!!!!

NAME:
ADDRESS
CITY, STATE, ZIP.

NO.______INDIVIDUAL REGISTRATIONS @ $4.00........$_________

NO.______FAMILY REGISTRATIONS @ $7.00...........$_________

Send this form together with your check or money order to:
The Midwest T/S Computerfest
3832 Watterson Ave.
Cincinnati, Ohio 45227

You will have a great time!!!!!

*=

1/31/86 Dealers and vendors committed to date.
Zebra, Aerco, G. Russell Electronics, Budget Robotics, Budget Data, E. Arthur Brown, Time Designs, TS Horizons, Brice Computers, TS Connection, Cleveland Users, Columbus Users, Cinti Users. More signing up every day!!!!!

SPEAKWELL

By Kai Webber

This is a reprint from ZX COMPUTING DEC/JAN.

Although this program is for the SPECTRUM, it will run on a 2068, and is a very impressive use of the BEEP command.

This is by no means the first Spectrum speech program but it does offer far greater manipulation of speech data than some of the other efforts that have appeared in magazines, allowing crackles and noise to be cut down greatly. Basically, what the program allows you to do is to record speech from a tape recorder (along with a few extra noises thrown in for good measure!) and then replay this speech in your own programs.

Begin by carefully typing in the BASIC listing and then save it to tape with 'SAVE "SPEAKWELL" LINE 1. When you run the program, you should be confronted with some data details at the bottom of the screen which are fairly self explanatory and a menu of options:

R — RECORD SPEECH

This allows you to record your voice into the computer's memory at the current record/play speed. When you select this option you will be told to press any key to start recording. There are two methods you can use to record speech (experiment with both methods to see which gives best results):

1) Record your voice onto a tape and play this tape into the computer, pressing a key just before the speech starts. (Try different volume settings until you achieve the best results).

2) Set the recorder into Record mode (remove any tapes in the recorder, find the small switch in it which checks to see if a tape has a write protect tab, press this in and press 'PLAY' and 'RECORD' on the recorder at the same time), press a key and start talking into the tape recorder's microphone.

P — PLAY BACK SPEECH

This will simply replay any speech stored in memory at the current record/play speed.

A — ALTER START ADDR

This allows you to alter the start address from which speech is recorded/played back. If there is a lot of 'noise' from the tape recorder at the start of some speech you can get rid of it by altering the start address by trial and error. (If the start address plus the length of data would cause the data to overflow into the graphics area of the computer will prevent you from using this value — lower the length first — see below. It will also reject any value below 32855).

L — CHANGE LENGTH

Allows you to change the length of speech to be recorded/played back. The computer will prevent you from using any value which will cause an overflow into the graphics area.

S — CHANGE SPEED

Lets you change the record/play back speed. By playing back at a different speed you can alter the pitch of your voice. The slower the speed, the worse speech will sound. (Values below about 25 are of little use).

M — MEMORY MANAGER

A useful tool that allows you to move blocks of speech around in memory. Three parameters are required: address to copy from; address to copy to and number of bytes to copy. If 'Invalid address' appears on the screen, then you have tried to overwrite either the graphics area of the machine code. If you wish to remove 'noise' that was recorded before you started speaking, find the start address of the actual speech (using 'S') and enter this as the address to copy from. Enter the address to copy to and the number of bytes to copy and then alter the start address to the value you used as the address to copy to. (Got that?!!).

T — TAPE OPERATIONS

This prints up a self-explanatory tape menu.

```
  10 BORDER 0: PAPER 0: INK 7: C
LEAR 32767: RESTORE 9920: GO SUB
 9850
  20 LET SPEED=100: LET START=32
855: LET LENGTH=32512
  30 GO SUB 9730
  40 RESTORE 9720: LET K$=INKEY$
  50 FOR F=1 TO 7
  60 READ A$,LINE: IF A$=K$ THEN
 GO SUB LINE: GO SUB 9810
  70 NEXT F
  80 GO TO 40
9230 PRINT AT 17,0; FLASH 1;"L -
 LOAD   S - SAVE   R - RETURN":
PAUSE 1: PAUSE 0: PRINT AT 17,0,
,
9240 IF INKEY$="l" THEN GO TO 92
80
9250 IF INKEY$="s" THEN GO TO 93
20
9260 IF INKEY$="r" THEN PAUSE 1:
 RETURN
9270 GO TO 9230
9280 INPUT "NAME OF FILE? ";N$
9290 IF LEN N$>10 THEN PRINT AT
17,7; FLASH 1;"INVALID FILE NAME
": GOTO 9280
9300 PRINT AT 17,0,,AT 17,11; FL
ASH 1;"LOADING...": LOAD N$CODE
9310 RETURN
9320 INPUT "NAME OF FILE?  ";N$
9330 IF LEN N$>10 OR N$="" THEN
PRINT AT 17,10; FLASH 1;"INVALID
 NAME": GO TO 9320
9340 PRINT AT 17,0,,: SAVE N$COD
E START,LENGTH
9350 PRINT AT 17,10; FLASH 1;"VE
RIFY (y/n)": PAUSE 0: GO SUB 981
0: IF INKEY$="n" THEN RETURN
9360 PRINT AT 17,10; FLASH 1;"VE
RIFYING..": VERIFY N$CODE
9370 RETURN
9380 INPUT "ADDRESS TO COPY FROM
?  ";HL
9385 PRINT AT 17,0,,
9390 IF HL<32855 OR HL>65366 THE
N PRINT AT 17,6; FLASH 1;"INVALI
D COPY ADDRESS": GO TO 9380
9400 INPUT "ADDRESS TO COPY TO?
  ";DE
9405 PRINT AT 17,0,,
9410 IF DE<32855 OR DE>65366 THE
N PRINT AT 17,2; FLASH 1;"INVALI
D DESTINATION ADDRESS": GO TO 94
00
9420 INPUT "NUMBER OF BYTES TO C
OPY?  ";BC
9430 IF BC+DE>65367 OR BC+HL>653
67 THEN PRINT AT 17,9; FLASH 1;"
INVALID NUMBER": GO TO 9420
9440 POKE 65521,DE-256*INT (DE/2
56): POKE 65522,INT (DE/256)
9450 POKE 65524,BC-256*INT (BC/2
56): POKE 65525,INT (BC/256)
9460 POKE 65527,HL-256*INT (HL/2
56): POKE 65528,INT (HL/256)
9480 IF BC=0 THEN RETURN
9490 RANDOMIZE USR 65520
9500 RETURN
9510 INPUT "NEW SPEED?  ";SPEED
9520 IF SPEED<0 OR SPEED>255 THE
N PRINT AT 17,9; FLASH 1;"INVALI
D SPEED": GO TO 9510
9540 POKE 32854,SPEED
9550 RETURN
9560 INPUT "NEW LENGTH?  ";LENGT
H
9570 IF LENGTH<1 OR LENGTH+START
>65367 THEN PRINT AT 17,9; FLASH
 1;"INVALID LENGTH": GO TO 9560
9590 POKE 32852,LENGTH-256*INT (
LENGTH/256): POKE 32853,INT (LEN
GTH/256)
9600 RETURN
9610 INPUT "NEW START ADDRESS?
";START
9620 IF START<32855 OR START>653
60 OR START+LENGTH>65367 THEN PR
INT AT 17,8; FLASH 1;"INVALID AD
DRESS": GO TO 9610
9640 POKE 32850,START-256*INT (S
TART/256): POKE 32851,INT (START
/256)
9650 RETURN
9660 RANDOMIZE USR 32808
9670 RETURN
9680 PRINT AT 17,0; FLASH 1;"PRE
SS ANY KEY TO START RECORDING":
PAUSE 1: PAUSE 0: PRINT AT 17,0,
,AT 17,11; FLASH 1;"RECORDING"
9690 OUT 254,15: RANDOMIZE USR 3
2768
9700 BEEP 1,5
9710 RETURN
```

OVER

SPEAKWELL

continued

```
9720 DATA "r",9680,"p",9660,"a",
9610,"l",9560,"s",9510,"m",9380,
"t",9230
9730 PRINT TAB 11;"SPEAKWELL"
9740 PRINT TAB 11;"---------"
9750 PRINT 'TAB 6;"R - RECORD SP
EECH"
9760 PRINT 'TAB 6;"P - PLAY BACK
 SPEECH"
9770 PRINT 'TAB 6;"A - ALTER STA
RT ADDR"
9780 PRINT 'TAB 6;"L - CHANGE LE
NGTH"
9790 PRINT 'TAB 6;"S - CHANGE SP
EED"
9800 PRINT 'TAB 6;"M - MEMORY MA
NAGER"''TAB 6;"T - TAPE OPERATIO
NS"
9810 PRINT AT 19,0;"START ADDR O
F SPEECH DATA:";START
9820 PRINT "END ADDRESS OF SPEEC
H DATA:";START+LENGTH
9830 PRINT "LENGTH OF SPEECH DAT
A:";LENGTH;"   ";#1;AT 0,0;"REC
ORD/PLAY SPEED:";SPEED;"  "
9840 PRINT AT 17,0,,: RETURN
9850 FOR F=32768 TO 32854
9860 READ A: POKE F,A
9870 NEXT F
9890 FOR F=65520 TO 65531
9900 READ A: POKE F,A
9910 NEXT F: RETURN
9920 DATA 243,42,82,128,237,91,8
4,128,6,8,14,0,237
9930 DATA 67,0,0,175,219,254,23,
23,203,17,16,247,113,58
9940 DATA 86,128,71,16,254,35,12
2,179,27,32,226,251,201,243,42
9950 DATA 82,128,237,91,84,128,6
,8,78,203,9,203,9,203,9
9960 DATA 121,230,16,211,254,203
,1,16,247,58,86,128,71,16,254
9970 DATA 203,135,35,122,179,27,
32,224,251,201,87,128,0,127,1
9980 REM BLOCK MOVE MACHINE CODE
9990 DATA 17,0,0,1,0,0,33,0,0,23
7,176,201
```

FOR SALE

TIMEX printer paper $1.00 a roll
call Bill Hamilton 231-0539

TS/2068
A&J MikroDrive
3 Recorders
2040 Printer
(2068 has a RGB output)
call Joe Vitello 923-3778

TS/1000
16K Ram
Centronix IF
Assembler Rom
MemoCalc Rom
MemoText Rom
Winki Board
Key Board
GX100 Printer
call Paul Kinney at 456-5827

ANSWERS TO " NOT AN IQ TEST"

1) 26 Letters of the Alphabet
2) 7 Wonders of the Ancient World
3) 1,001 Arabian Nights
4) 12 Signs of the Zodiac
5) 54 Cards in a Deck with the Joker
6) 9 Planets in the Solar System
7) 88 Piano Keys
8) 13 Stripes on the American Flag
9) 32 Degrees Farenhite at which Water Freezes
10) 18 Holes on a Golf Course
11) 90 Degrees in a Right Angle
12) 200 Dollars for Passing Go in Monopoly
13) 8 Sides on a Stop Sign
14) 3 Blind Mice (See How They Run)
15) 4 Quarts in a Gallon
16) 24 Hours in a Day
17) 1 Wheel on a Unicycle
18) 5 Digits in a Zip Code
19) 57 Heinz Varieties
20) 11 Playes on a Football Team
21) 1000 Words that a Picture is Worth
22) 29 Days in Feb. in a Leap Year
23) 64 Squares on a Checker Board
24) 40 Days and Nights of the Great Flood

To all of you that got 100% on this non-test, I CONGRATULATE you. To those of you that got help, that's all right, the more people in on it the more fun you have. But if you just waited for the answers, "Your no fun at all"

SCHEDULE FOR '86

JAN. 19 FEB. 16
MARCH 16 APRIL 20
MAY 18 JUNE 15
JULY 20 AUGUST 17
SEPT. 21 OCT. 19
NOV. 16 DEC. 21

ALL MEETINGS HELD 2:00 P.M. ON THE THIRD SUNDAY OF THE MONTH AT CENTRAL GOVERNMENT CENTER, 7201 OUTER LOOP

Bob's Bits

* * *

How do you spell "RELIEF"? Many ways are possible, but when your dealing with a Sinclair computer its spelled "AERCO disc drive interface"! Fast relief from "slow load" pain and agony.

AERCO is just one of a growing number of companies providing disc interfaces for Timex/Sinclair computers. I decided to order from AERCO after reading several reviews, both good and bad, about their disc interface, the FD-68. After a slight delivery delay due to an addressing error on my part, it finally arrived. It was like another Christmas and I was ready, at least I thought I was. The order was for the interface only without disc drives. The disc drives I borrowed from my office are 5.250 single sided single density units and, due to my hastily placed order, I forgot to specify the type of drives that I would be using. Because of this oversight AERCO sent the interface ROM programmed for two 5.250 double sided double density drives. They probably assume that this is the most common system configuration. You can specify any combination (3" to 8") or number of drives (up to four) when you place an initial order.

The next day I placed an order with B.G. Micro in Dallas Texas for two half height DS/DD drives. Waiting for the drives to arrive gave me some time to experiment and use the RGB output that is included with the disc interface. This is an extremely nice feature that you must see to appreciate. A week and a half later, I unboxed two brand new QUME disc drives and installed them into the same space that one SS/SD drive took up in the disc cabinent. I was impressed - again! Addressing is done with jumpers on each drive and the terminator resistor DIP in the last drive completes the disc "daisy chain" setup. A trip to the parts store completed the interface cable for the disc drives. I was getting real anxious.

Included with the interface is a boot disc and operations manual. Following the instructions, you insert the boot disc, turn on the TS 2068 and then the disc drives. The screen went black for a moment then showed the standard 2068 copyright "hello" message. About a second later the message "DISC A NOT ROTATING" appeared at the screen bottom. Now this made sense since the disc drives had not been turned on yet. So I turned 'em on and the screen started filling from bottom to top with RGB colored squares. Then the blocks started to fill with something that looked like Chinese characters! Panic took over and the main breaker was pulled. Putting all my senses to work, I felt for hot chips. None were found. Smelled for smoke. Nothing there. Hmmmmm. Finally I decided to try it again, only this time turning the disc drive on first, then the computer. Same results. Rechecking addressing and trying another interface cable did not help. I removed the interface and verified that the 2068 was working OK. It was. Resigning to the fact that I had a "bad" disc interface, I looked at the 2068 in disbelief.

I finally snapped back to reality after doing six minutes of blank staring (a.k.a. "looping of the brain") and decided to read the manual for the third and last time before I give up. This manual, with a few exceptions, is very well written. Some hardware knowledge is assumed for installation but don't let that scare you. AERCO supplies enough pictorials and print in the manual to get you or another "hardware oriented" person to understand the setup and operation procedures. One of my many observations since becoming a T/S user is that "there are very few T/S users who are NOT "hardware hackers".

Sometimes, strange things happen that make you think "somebody up there REALLY does like me"! As I picked up the AERCO manual the edge caught in the TCC (Timex Command Cartridge) door and lifted it enough that I saw the GAMESMATE joystick adaptor. Hmmmm, Wonder if....? I removed the joystick IF and reconnected everything back together and tried to boot the disc again. Drive "A" started up, the busy LED lit, and three seconds later had a beautiful "welcome" screen on the monitor. Seems that there was a conflict of interest concerning the "dock" which the GAMESMATE took and the "dock" that the disc IF required. It will just have to be this way untill someone programs their way around it.

During further testing of the disc system it was determined that you should turn on the drives first, then the computer. The manual has it in reverse order on page four.

The physical size of the interface is 5.5" x 4.25" x .75"(1.5" including connectors). It is mounted to the back of the computer via feed thru connector strip and sticks straight up in the air ala rampack style. It is uncased but does have a plastic sheet covering the side (solder side) facing the user. The component side is exposed to the rear when mounted on the 2068. No hardware modifications are needed to use the disc IF with a 2068 although you may want to change the way it sticks up in the air. AERCO does sell the interface cables for different drive combinations, but you can lower the budget by constructing your own. Connectors for disc drives are 34 contact IDC (Insulation Displacement Connector) card edge type for use with ribbon cable. Radio Shack sells them, but I do not recommend them even though they are cheaper. The reason is NO gold. A few bucks more spent for gold connectors could save you from future problems with your disc system.

As I mentioned before, documentation is excellent. Full schematics are provided with all AERCO products and their manuals encourage you to call or write them should you have any questions or problems not covered in print. The FD-68 disc manual even has a short sections on floppy disc operation theory and the FD-68 operating theory itself. Also mentioned, was the option of different types of drives on the same system. AERCO will "blow" you a replacement ROM for an additional charge should you desire to upgrade or change the type of drives you are using. On the subject of upgrading, the FD-68 comes standard with 64K onboard RAM, but can be upgraded to 256K for a nominal fee. This upgrade will probably be necessary to run the CPM operating system when it is released.

Well, thats it for this month. Next month will continue on with a look into the operation of the FD-68 floppy disc system, its commands and reports, capabilities and limitations and if room permits some program information to convert "Tasword" to disc operation using the FD-68 from:

Acme Electric Robot COmpany
A E R C O
P.O. Box 18093
Austin, Texas
78760
Ph. (512) 451-5874

Bob

Bob Crecco

BATTLESHIP

TS/2068

This is the classic game you played with pencil and graph-paper with a friend. With this program the computer is your adversary. Each player has

1 BATTLESHIP
2 DESTROYERS
3 FRIGATES

A Battleship consists of four squares, Destroyers three, and Frigates are two squares.

When the computer asks you to enter your ships, enter the coordinates that you want the bow of the ship, and R if it is to be to the right, or horizontal or U for up or vertical (> F5R). When entering your shots just enter the letter and the number of the coordinates for each shot (> D5).

You and the computer each start with five shots, but this will diminish to two each. Who ever sinks the the opposing fleet, or 16 points wins.

```
  10 REM COMPUTER BATTLESHIPS´by
 A. Pratt
  50 REM Initialize variables
  60 LET a=0: LET b=1: LET d=2:
LET e=7: RANDOMIZE
  70 BORDER e: PAPER e: INK a: B
RIGHT a: CLS
  80 DIM b$(20): DIM w$(b): DIM
n$(6): DIM i$(17): DIM j$(32)
  90 DIM h(3): DIM g(3): DIM y(8
): DIM x(8)
 100 LET n$="BDDFFF"
 110 LET b$="0123456789ABCDEFGHI
J"
 120 FOR i=b TO 3: READ h(i): LE
T g(i)=h(i): NEXT i
 130 DATA 4,6,6
 140 FOR i=b TO 8: READ y(i): RE
AD x(i): NEXT i
 150 DATA -b,a,-b,b,a,b,b,b,b,a,
b,-b,a,-b,-b,-b
 160 REM **** Instructions ****
 180 PRINT  BRIGHT b; AT a,a;"
    COMPUTER BATTLESHIPS    "
 190 PRINT '"Battleships is play
ed on a boardof 10 by 10 squares
 on which aresited 1 Battleship,
 2 Destroyersand 3Frigates."
 200 PRINT '"Each ship is repres
ented by a   horizontal or verti
cal line of  4*B, 3*D or 2*F. No
 two ships   are allowed to touc
h each other in any direction."
 210 PRINT '"The object is to lo
cate and sinkthe computer's ship
s before it  sinks yours. A scor
e of 16 wins."
 220  PRINT '"Locations are refe
red to by co- ordinates and are
chosen by      pressing the lette
r followed by the number."
 230 PRINT BRIGHT b;"    Press an
y key to continue      "
 240 PAUSE a
 250 REM Start of screen setup
 260 FOR i=b TO 21: PRINT AT i,a
;j$: NEXT i
 270 PLOT d,34: DRAW a,131: DRAW
 251,a: DRAW a,-131: DRAW -251,a
 280 FOR i=5 TO 133 STEP 128
 290 PLOT i,37: DRAW a,125: DRAW
 117,a: DRAW a,-125: DRAW -117,a

 300 NEXT i
 310 PRINT  AT d,b;"HUMAN SCORE:
";AT d,17;"COMPU SCORE:"
 320 PRINT AT 4,3;"ABCDEFGHIJ";A
T 4,19;"ABCDEFGHIJ"
 330 FOR i=a TO 9
 340 PRINT AT 6+i,b;i;AT 6+i,17;
i: NEXT i
 400 REM ** Sets up the boards *
 410 PAPER 4: INK 4: FOR i=d TO
18 STEP 16: PRINT AT 5,i;"XXXXXX
XXXXXX";AT 16,i;"XXXXXXXXXXXX"
 420 NEXT i
 430 FOR i=6 TO 15
 440 PRINT AT i,d;"X";AT i,13;"X
";AT i,18;"X";AT i,29;"X"
 450 FOR j=3 TO 12: LET k=(i+j)/
d
 460 PRINT PAPER e; BRIGHT ((k-I
NT (k))*d);AT i,j;" ";AT i,j+16;
" ": NEXT j
 470 NEXT i: PAPER e: INK a
 600 REM *** Enter the ships ***
 620 BRIGHT b
 630 GO SUB 4000: GO SUB 5000
 640 LET dir=a: LET max=a: LET r
last=a: LET clast=a: LET h=a: LE
T g=a: GO SUB 990
 650 IF RND<.5 THEN GO TO 830
 800 REM *** Main game loop ***
 810 GO SUB 1000: REM Human move
 820 IF h=16 THEN GO SUB 3000: P
RINT AT 19,a;"Human won ";h;" to
 ";g: STOP
 830 GO SUB 2000: REM Comps move
 840 IF g=16 THEN GO SUB 3000: P
RINT AT 19,a;"Computer won ";g;"
 to ";h: STOP
 850 GO TO 810
 980 REM **** Score update ****
 990 PRINT  AT d,13;h;AT d,29;g:
 RETURN
1000 REM **** Human's move ****
1010 LET j=6-b*(g(b)<3)-b*(g(d)<
5)-b*(g(d)<3)-b*(g(3)<5)-b*(g(3)
<4)
1020 IF j<d THEN LET j=d
1030 GO SUB 8000: LET pos=b
1050 PRINT AT 18,a;"HUMAN has ";
j;" moves. Enter co-ords"
1060 FOR k=b TO j: LET r=a: LET
c=a: LET pos=pos+4
1090 PRINT AT 21,b;"Move Number
";k; FLASH b;AT 21,16;"?";: PRIN
T " ";
1100 GO SUB 7000: LET c=c+16
1160 PRINT AT 19,pos;b$(c-8);b$(
r-5);AT 21,a;j$
1170 IF ATTR (r,c)=87 THEN PRINT
 INK d;AT 20,pos;"Mad": GO TO 12
90
1180 LET w$=SCREEN$ (r,c)
1200 IF w$=" " THEN GO SUB 6500:
 GO TO 1270
1210 IF w$="B" THEN  LET g(b)=g(
b)-b
1220 IF w$="D" THEN LET g(d)=g(d
)-b
1230 IF w$="F" THEN LET g(3)=g(3
)-b
1240 PRINT  PAPER d; INK e; FLAS
H b;AT r,c;w$: PRINT  AT 20,pos;
"*";w$;"*"
1250 GO SUB 6000
1260 LET h=h+b: GO SUB 990
1270 PRINT  PAPER d; INK e; BRIG
HT b;AT r,c;w$;
1280 IF h=16 THEN RETURN
1290 NEXT k
1300 RETURN
1999 REM
2000 REM *** Computer's move ***
2010 LET j=6-b*(h(b)<3)-b*(h(d)<
5)-b*(h(d)<3)-b*(h(3)<5)-b*(h(3)
<4)
2020 IF j<d THEN LET j=d
2030 GO SUB 8000: LET pos=b
2040 PRINT AT 18,a;"COMPUTER has
 ";j;" moves,"
2050 LET r=rlast: LET c=clast
2060 FOR k=b TO j: LET pos=pos+4
2070 IF dir>a AND max>a THEN GO
TO 2500
2100 REM **** Random choice ****
2110 LET r=INT (RND*10)+6: LET c
=INT (RND*10)+3
2120 IF ATTR (r,c)=87 OR ATTR (r
,c)=82 THEN GO TO 2110
2150 REM Isolated square check
2160 LET v=a: FOR i=b TO 7 STEP
d
2170 LET attr=ATTR (r+y(i),c+x(i
))
2180 IF attr=87 OR attr=82 OR at
tr=36 THEN LET v=v+.25
2190 NEXT i: IF v=b THEN GO TO 2
110
2200 REM ** Ship close check **
2210 LET v=a: FOR i=b TO 8
2220 IF ATTR (r+y(i),c+x(i))=87
THEN LET v=b
2230 NEXT i: IF v=b THEN GO TO 2
110
2300 GO SUB 3000: LET w$=SCREEN$
 (r,c)
2310 IF w$=" " THEN GO SUB 6500:
 PRINT PAPER d; INK d; BRIGHT b;
AT r,c;"X": GO TO 2410
2320 IF w$="B" THEN LET h(b)=h(b
)-b: LET max=3
2330 IF w$="D" THEN LET h(d)=h(d
)-b: LET max=d
2340 IF w$="F" THEN LET h(3)=h(3
)-b: LET max=b
2350 PRINT  PAPER d; INK e; FLAS
H b; AT r,c;w$: PRINT AT 20,pos;
"*";w$;"*"
2360 GO SUB 6000
2370 LET g=g+b: GO SUB 990
2380 LET dir=b+d*(RND<.5)
2390 PRINT PAPER d; INK e; BRIGH
T b;AT r,c;"*"
2400 IF g=16 THEN RETURN
2410 NEXT k
2420 LET rlast=r: LET clast=c
2430 PAUSE e*e
2490 RETURN
2500 REM *** Search routine ***
2600 LET rt=r+y(dir): LET ct=c+x
(dir)
2610 IF ATTR (rt,ct)=87 THEN LET
 r=rt: LET c=ct: GO TO 2600
2620 IF SCREEN$ (rt,ct)=" " THEN
 LET r1=rt: LET c1=ct: LET dir=d
ir+4-6*(dir=5)-10*(dir=7): GO TO
 2800
2630 IF ATTR (rt,ct)=82 OR ATTR
(rt,ct)=36 THEN LET dir=dir+4-6*
(dir=5)-10*(dir=7): GO TO 2600
2640 IF SCREEN$ (rt,ct)<>" " THE
N LET r1=rt: LET r=rt: LET c1=ct
: LET c=ct: GO TO 2800
2800 REM *** Succesive hits ***
2810 GO SUB 3000: LET w$=SCREEN$
 (r1,c1)
2820 IF w$=" " THEN GO SUB 6500:
 PRINT PAPER d; INK d; BRIGHT b;
AT r1,c1;"X": GO TO 2400
2830 IF w$="B" THEN LET h(b)=h(b
)-b
2840 IF w$="D" THEN LET h(d)=h(d
)-b
2850 IF w$="F" THEN LET h(3)=h(3
)-b
2860 PRINT PAPER d; INK e; FLASH
 b;AT r1,c1;w$: PRINT AT 20,pos;
"*";w$;"*"
2870 GO SUB 6000
2880 LET g=g+b: LET max=max-b: G
O SUB 990
2890 IF max=a THEN LET dir=a
2900 PRINT PAPER d; INK e; BRIGH
T b;AT r1,c1;"*"
2920 GO TO 2400
3000 PRINT AT 19,pos;b$(c+8);b$(
r-5): PAUSE 30: RETURN
4000 REM **** Human's Ships ****
4010 GO SUB 8000: LET pos=8: LET
 bad=4700
4020 PRINT AT 18,a;"HUMAN SHIPS:
 Enter start co-ords A-J , 0-9 ,
 R - Right or U - Up"
4025 PRINT  AT 20,9; PAPER 5;"
  "
4030 FOR n=b TO 6
4035 PRINT AT 21,a;j$: PAUSE e*e
4040 LET r=a: LET c=a: LET z=a:
LET x=5
4050 IF n=b THEN PRINT AT 21,a;"
Battleship (4 squares) ";
4060 IF n=d OR n=3 THEN PRINT AT
 21,a;"Destroyer "+STR$ (n-b)+"
 (3 squares) ";
4070 IF n>3 THEN PRINT AT 21,a;"
Frigate "+STR$ (n-3)+" (2 square
s) ";
4080 PRINT AT 21,26; FLASH b;"?"
;: PRINT " ";
4100 GO SUB 7000
4160 IF INKEY$="r" OR INKEY$="R"
 THEN LET z=b: PRINT "R": GO TO
4190
4170 IF INKEY$="u" OR INKEY$="U"
 THEN LET z=d: PRINT "U": GO TO
4190
4180 GO TO 4160
4190 BEEP .1,e+b: PRINT AT 21,26
;" "
4200 IF SCREEN$ (r,c)<>" " THEN
LET i$="Occupied square": GO TO
bad
4210 LET m=3-b*(n>b)-b*(n>3)
4230 REM ** Try to place ship **
4240 FOR x=a TO m
4250 IF z=b THEN LET c1=c+x: LET
 r1=r
4260 IF z=d THEN LET c1=c: LET r
1=r-x
4270 IF SCREEN$ (r1,c1)="X" THEN
 LET i$="Off the board": GO TO b
ad
4280 IF SCREEN$ (r1,c1)<>" " THE
N LET i$="Overlaps another": GO
TO bad
4290 REM ** Check neighbors **
4300 LET v=a: FOR j=-b TO b: FOR
 k=-b TO b
4310 IF SCREEN$ (r1+j,c1+k)<>" "
 THEN IF SCREEN$ (r1+j,c1+k)<>"X
" THEN LET v=b
4320 NEXT k: NEXT j
4330 IF v=b THEN LET i$="Too clo
se": GO TO bad
4340 NEXT x
4350 REM **** Place ship ****
4360 FOR x=a TO m
```

BATTLESHIP

```
4370 IF z=b THEN LET c1=c+x: LET
 r1=r
4380 IF z=d THEN LET c1=c: LET r
1=r-x
4390 PRINT AT r1,c1; INK b;n$(n)
4400 NEXT x
4410 LET pos=pos+d
4420 PRINT AT 20,pos; PAPER 5; I
NK b;n$(n)
4430 NEXT n
4440 FOR x=1 TO 100: NEXT x: RET
URN
4700 REM Invalid routine
4710 PRINT AT 21,a; INK e; PAPER
 d;i$;" Try again    ": FOR f=1
 TO 3: BEEP .05,3: BEEP .05,12:
BEEP .05,3: BEEP .05,12: NEXT f
4720 FOR f=b TO 100: NEXT f: PRI
NT AT 21,a;j$
4730 GO TO 4040
5000 REM ** Computer's Ships **
5010 GO SUB 8000: LET pos=8
5020 PRINT AT 18,a;"COMPUTER SHI
PS now positioned :"
5100 FOR n=b TO 6
5110 LET m=3-b*(n>b)-b*(n>3)
5120 LET r=INT (RND*(11-m))+6: L
ET c=INT (RND*(11-m))+19
5130 GO TO 5200+100*(RND<.5)
5150 LET pos=pos+d: BEEP .2,12
5160 PRINT AT 20,pos; INK d; FLA
SH b;n$(n)
5170 NEXT n
5180 PAUSE 20: FOR x=b TO 4: BEE
P .05,15: BEEP .07,12: NEXT x: P
RINT AT 21,14; INK 4; FLASH b;"D
one"
5190 PAUSE 200: RETURN
5200 REM *** Ship horizontal ***
5210 LET r1=r: FOR x=a TO m: LET
 c1=c+x
5220 IF SCREEN$ (r1,c1)<>" " THE
N GO TO 5110
5230 GO SUB 5400: IF v THEN GO T
O 5110
5240 NEXT x
5250 FOR x=a TO m: LET k=(r+c+x)
/2
5260 PRINT AT r,c+x; INK e; BRIG
HT ((k-INT k)*d);n$(n)
5270 NEXT x
5290 GO TO 5150
5300 REM *** Ship vertical ***
5310 LET c1=c: FOR x=a TO m: LET
 r1=r+x
5320 IF SCREEN$ (r+x,c)<>" " THE
N GO TO 5110
5330 GO SUB 5400: IF v THEN GO T
O 5110
5340 NEXT x
5350 FOR x=a TO m: LET k=(r+c+x)
/2
5360 PRINT AT r+x,c; INK e; BRIG
HT ((k-INT k)*d);n$(n)
5370 NEXT x
5390 GO TO 5150
5400 REM Check comp's neighbors
5410 LET v=a: FOR j=-b TO b: FOR
 k=-b TO b
5420 IF SCREEN$ (r1+j,c1+k)<>" "
 THEN IF SCREEN$ (r1+j,c1+k)<>"X
" THEN LET v=b
5430 NEXT k: NEXT j: RETURN
6000 REM Hit ship - sound effect
6010 FOR i=e TO a STEP -.1: BEEP
 .005,i: NEXT i: RETURN
6500 REM Miss - sound effect
6510 FOR i=a TO e*e: NEXT i: BEE
P .3,3: RETURN
7000 REM *** Input co-ords ***
7010 LET c=CODE INKEY$-62: IF c>
34 THEN LET c=c-32
7020 IF c<3 OR c>12 THEN GO TO 7
010
7030 PRINT CHR$ (c+62);: BEEP .1
,e-b
7040 LET r=CODE INKEY$-42: IF r<
6 OR r>15 THEN GO TO 7040
7050 PRINT CHR$ (r+42);: BEEP .1
,e
7060 RETURN
8000 REM * Clear bottom lines *
8010 PRINT AT 18,a;j$;j$;j$;j$:
RETURN
9999 CLEAR : SAVE "battleship" L
INE 1: PRINT "REWIND TAPE AND PR
ESS PLAY TO  VERIFY": VERIFY ""
: PRINT '"OK"
```

A NEW 2068 PRINTER INTERFACE!

-Works with all printers which use the Centronics parrallel standard.

-Includes all connecting cables. No other purchaces are required.

-Uses the LPRINT and LLIST commands directly from basic. No USR commands necessary.

-Allows for full page, high resolution graphic screen copys.

-Allows for full page, high resolution color screen copys using a grey scale system. Similar to the Macintosh screen.

-Compatible with ALL software designed for the Aerco Centronics Interface. e.g. MSCRIPT,

-Compatible with ALL software designed for the Tasman Interface. Including Tasword II. (Some POKEs are necessary to customize Tasman Software to the Hacksel Interface. These are included of course.)

-Compatible with a great many programs that use the LPRINT and LLIST commands such as VU-CALC or PRO-FILE.

-Compatible with Omnicalc II.

-Quite simply the most compatible printer interface availiable for the Timex 2068! And our low price is made possible the fact that the Canadian dollar is at an all time record low! ($1.00 US =$1.40 CND)

-Availiable in two types of boards.

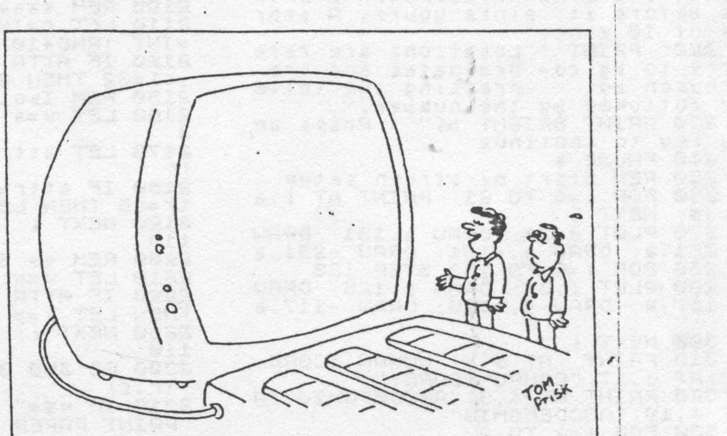
CARTRIDGE BOARD	$49.99US
REAR EDGE CONNECTOR BOARD	$45.99US

(please add $4.00 p&h)

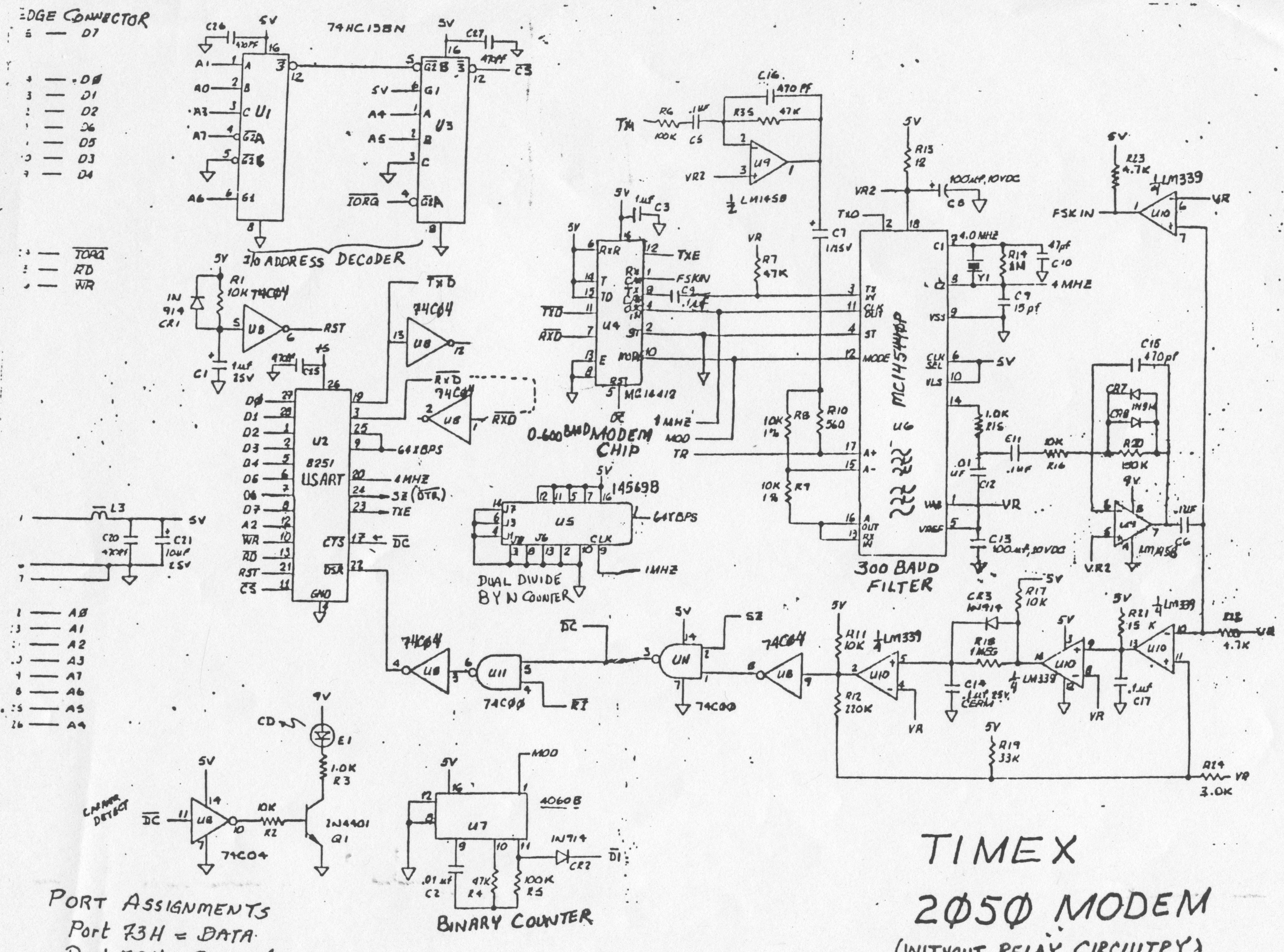
Send Cheque or Money order to:

Hacksel Electronics

247 QUEEN ST. WEST TORONTO ONT. CANADA M5V 1Z4 (416)596-1663



"I told you it was expandable."


EDGE CONNECTOR
D7
D0
D1
D2
D6
D5
D3
D4
IORQ
RD
WR
A0
A1
A2
A3
A7
A6
A5
A4
74HC138N
U1
U3
I/O ADDRESS DECODER
5V
C26
C27
CS
L3
C20
C21 10uF 25V
R1 10K
IN 914 CR1
74C04
U8
RST
C1 1uF 25V
C15
U2
8251
USART
TxD
RxD
64KBPS
4MHZ
SZ (DTR)
TXE
CTS
DC
DSR
GND
U4
MC14412
0-600 BAUD MODEM CHIP
TXE
FSKIN
C9 .1uF
C3 1uF
1MHZ
MOD
TR
145698
U5
DUAL DIVIDE BY N COUNTER
64KBPS
1MHZ
TX
R6 100K
C5 .1uF
R35 47K
C16 470PF
U9
LM1458
VR2
C7 1u 25V
R7 47K
R8 10K 1%
R9 10K 1%
R10 560
R13 12
C8 100uF, 10VDC
MC145414P
U6
300 BAUD FILTER
4.0 MHZ
Y1
R14 1M
C10 47pf
4 MHZ
C9 15pf
R15 1.0K
C11 .1uF
R16 10K
C12 .01 uF
C13 100uF, 10VDC
R20 150K
CR7
CR8 1N914
C15 470pf
U9
LM1458
C6 .1uF
9V
R23 4.7K
LM339
U10
FSK IN
VR
R11 10K
R12 220K
CR3 1N914
R18 1MEG
C14 .1uF 25V CERM
R17 10K
R21 15K
C17 .1uF
R22 4.7K
R19 33K
R24 3.0K
74C00
U11
SZ
RI
CD
E1
R3 1.0K
R2 10K
2N4401
Q1
CARRIER DETECT
4060B
U7
C2 .01uF
R4 47K
R5 100K
1N914
CR2
DI
BINARY COUNTER

PORT ASSIGNMENTS
Port 73H = DATA
Port 77H = CONTROL/STATUS

TIMEX
2050 MODEM
(WITHOUT RELAY CIRCUITRY)

COMPLIMENTS OF
LIST